# Great Irrigation Projects Now Under Consideration

people of Utah as to the people of any state in the Union. The hopes many thousands and the welfare of their posterity for many years to come are bound up in the work now under ray to reclaim and make fruitful the empire of desert land that now lies dor-mant. The conservation of the waters the mountain streams and the dis tribution of these waters over the dry lands is a work worthy of statesmen; it is a work that requires the most searching scientific knowledge along various lines; it is a work that requires unselfish co-operation on the part of the people already possessed of primary rights in the waters of lakes and

national irrigation law was enacted. It may be that some are disappointed in the results thus far obtained in Utah under the workings of that law. It may be that many expected more im-mediate returns in the way of reser-voirs and canals. If this is the case the disappointment is not well found-ed. The government is laying its foun-dations for irrigation work in Utah both broad and deep. And true to its established policy it is proceeding with that care that means success and great things in the end. During the past year the agents of the government have worked hard and persistently in ascer-taining facts to enable the work to go forward when it does move with absolute assurance of accomplishing every end called for in the plans.

People Watching For Water.

People in Salt Lake are watching with deep interest irrigation work that is being done along three different lines. This work is in the hands of three different organizations, although from the very nature of things the work cannot be entirely independent and distinct. The most important, be-cause the most far-reaching work, is in the hands of the representatives of the general government, next comes the work that is being done by the state, and finally the work of the city. The latter is not essentially irrigation work, but its fortunes are tied up more or less intimately with the work of the state and the nation that it may be treated as part of the general scheme. Taking the three together scheme. Taking the three together and it is safe to say that in no other year in all the history of the state from the beginning was so much done for irrigation and along such broad and intelligent lines as in the twelve months just ended.

There is inspiration in a contempla tion of the complete plans of the gen-eral government. These plans mean, when carried out in all details, the re-clamation of 300,000 acres of as good land as there is in the state. This means increasing the value of the land from practically nothing to \$100 per acre, and this in turn means an addition of \$30,000,000 to the value of the state. It means good homes for many thousand people, and it means a tre-mendous addition to the agricultural output of the state.

Utah Lake Comes First.

In this tremendous undertaking of the general government there are three distinct objects in view. The first of these, the one that is considered most important and the ones that takes precedence in all the calculations of the government officials, is the Utah lake project. The essential feature of this project is to cut a channel to enable the people of Salt Lake valley to utilize the great body of water in the lake below the level of the bed of the present channel. The second great point in the government plan is to con-vert Bear lake into a reservoir for the purpose of saving the winter and spring flow of the Bear river that now goes to waste. The third point is to construct a great reservoir in the Straw-berry valley on the east side of the berry valley on the east side of the Wasatch range of mountains, and by means of a tunnel bring this water into Utah county to be used there for irrigating purposes.

of water supply. The difficulty that has attended this work may be understood from the statement that the bottom of the mud has not been reached in the investigations. The mud is of the consistency of thick molasses. It is clear that no channel could be maintained in this mud without embank-ments of some other material, and an embankment of other material is out of the question unless a solid founda-tion could be reached upon which fo build. Up to this time this solid foundation has not been reached. It is the belief of the engineers that at one time there was a tremendous excavation where the lake now stands, and that this opening has been filling for thousands of years by the washings from

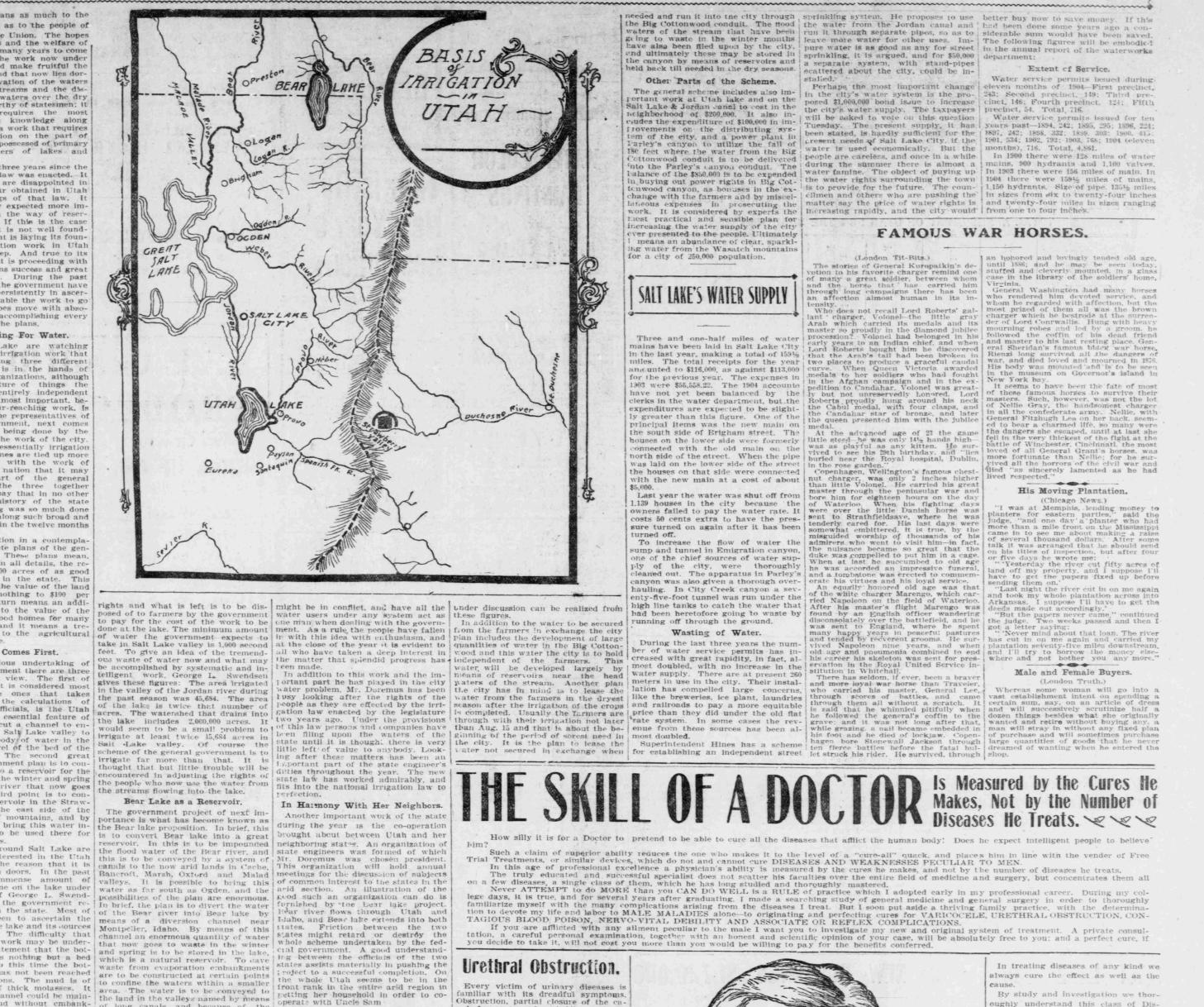
Must Get Down to Bedrock.

It is a well-known fact that government engineers never take things for granted—they demand undisputed facts upon which to base their calculation For these reasons the work at Utah lake has taken time. If the bed of the lake had been of rock the prob-lem would hae been an easy one. People have suggested that a pipe line be constructed into the center of the lake. With the mud that fills the lake this

In spite or these tremendous difficulsolved, but the engineers in charge are not in a position at this time to give out the details of the plan. It has been passed upon at two different times by the board of consulting engineers. It will be finally considered at a meeting in this city in January. Then it will be passed up to the department of the interior and when accepted by that department all the details will be made

Many Claims to the Water.

The difficulties to be encountered in engineering character. The people hold-ing primary rights to the water of the lake and the water of the streams flow-



to Utah county to be used there for irrigating purposes.

People in and around Salt Lake are naturally more interested in the Utah lake project for the reason that it is right at their own doors. In the past three years an immense amount of work has been done on the lake under the supervision of George L. Swendsen, the head of the government reclamation work in the state. Most of this work has been to ascertain the exact nature of the lake and its sources of water supply. The difficulty that tom of the lake is nothing but a bed which is a natural reservoir. To save of mud and up to this time the botare to be constructed at certain points to confine the waters within a smaller area. The water is to be conveyed to the land in the valleys named by means of long canals, and because of the length of the canals and the topography of the country through which they must pass government aid is essential, as the undertaking is too large and farreaching for private enterprise and capital. By this scheme much arid land is to be redecided and large bodies that now have a partial supply are to be given all that is needed for agri-cultural purposes. A number of meet-ings have been held in parts of the country to be effected by this scheme and the farmers are enthusiastic for co-operation with the government.

Will Tunnel Through the Hills. The third project in the general plan the government is to construct

for the conservation of the that stream. This plan may be constructed into the center of the take. Uncluded in the general scheme is the With the mud that fills the lake this bering of a tunnel through the Wawould be like hanging a pipe in the satch mountains to convey this water air with nothing for support but the into Utah county to be utilized in the country about Spanish Fork, Payson and Santaquin. It is even proposed to carry this water stall farther. The posthe tailrace of the Utah Light & Rail-tounded by the amount of water that can be secured or the eastern side of the maintain range. The government the mountain range. The government consider the work is work in charge are not prepared yet to talk of their plans, but the work is going forward systematically and no serious obstacles to the scheme are in sight at this time. In addition to the special work being cone on the three great propositions cutlined here the government employes in the state have been doing a great annount of valuable work during the year in the way of measuring streams at different periods in the year, and in riaking a careful survey of the field to get the topography of the country with a view to the taking up of other work. officials who have this

states assists materially in pushing the project to a successful completion. Or the whole Utah seems to be in the front rank in the entire arid region in getting her household in order to cooperate with Uncle Sam

Big Move by the City.

All Salt Lake county is interested in the plan on foot to increase the water supply of Salt Lake City for the reason that the plan involves the exchange of Utah lake water for the water from Big Cottonwood, Little Cottonwood and Mill creek, now used for irrigation by the farmers of the valley. Incidentally all the people of the state are inter-ested in this for the reason that anytring that tends to benefit Salt Lake indirectly benefits every man, woman and child in Utah. The plan under discussion in the city

be voted for by the taxpayers of city Tuesday, Jan. 3 The real question the people are to pass upon is an issue of \$1,000,000 and if the vote is favorable \$850,000 of the proceeds of the bond issue are to be used in securing

from the streams named The plan for securing this water has been discussed so fully in the press and in public meetil-gra; that a brief statement is all that is needed here. In the first place the largest expenditure is for the construction of a concrete conduit to convey water from the Big Cottonwood, taking it out of the stream at the tribuses of the Utan high. point higher than Fort Douglas. This conduit will be seven miles long and will cost \$350,000. It will be fifty-four inches in diameter and will have a carrying capacity of 50,000,000 gallons

ket the topography of the country with a view to the taking up of other work in the lake must be considered. There are thirty-two streams flowing into Utah lake and there are irrigators claiming rights in the waters of all these streams. The waters of the lake are claimed by the five canal companies of Salt Lake valley, each company claiming one-fifth. The plan is to organize these people into one water users' association for the purpose of dealing with the government. Splendid progress has been made along this line largely through the influence of State Engineer A. F. Doremus, Franklin S. Richards and George L. Swendsen. The canal companies have agreed to take a certain number of second feet of water in exchange for their primary

Other Parts of the Scheme.

The general scheme includes also im-ortant work at Utah lake and on the Sait Lake & Jordan canel to cost in the neighborhood of \$200,000. It also incades the expenditure of \$100,000 in improvements on the distributing system of the city, and a power plant in Yarley's canyon to utilize the fall of 180 feet where the water from the Big Cottonwood conduit is to be delivered. Cottonwood conduit is to be delivered into the Parley's canyon conduit. The balance of the \$850,000 is to be expended in buying out power rights in Big Cottonwood canyon, as bonuses in the exchange with the farmers and by miscel-laneous expenses in prosecuting the work. It is considered by experts the thest practical and sensible plan for increasing the water supply of the city ever presented to the people. Ultimately

needed and run it into the city through the Big Cottonwood conduit. The flood waters of the stream that have been going to waste in the winter months have also been filed upon by the city. and ultimately these may be stored in the canyon by means of reservoirs and held back till needed in the dry seasons.

Sprinkling system. He proposes to use the water from the Jordan canal and run it through separate pipes, so as to leave more water for other uses. Impure water is as good as any for street sprinkling, it is argued, and for \$50,000 a separate system, with stand-pipes scattered about the city, could be inscattered about the city, could be in-

Perhaps the most important change the city's water supply. The taxpayers will be asked to vote on this question Tuesday. The present supply, it has been stated, is hardly sufficient for the present needs of Salt Lake City, if the water is used economically. But the people are careless, and once in a while during the summer there is almost a water famine. The object of buying up the water rights surrounding the town is to provide for the future. The councilmen and others who are pushing the

Water service permits issued during eleven months of 1904—First precinct, 243: Second precinct, 149: Third precinct, 146: Fourth precinct, 124: Fifth precinct, 54. Total, 716.

Water service permits issued for ten years past—1894, 242; 1895, 295; 1896, 224; 1897, 242; 1858, 332; 1899, 303; 1990, 415; 1901, 534; 1902, 792; 1903, 768; 1904 (eleven months), 716. Total, 4,861.

In 1900 there were 128 miles of water mains, 900 hydrants and 1,100 valves. In 1903 there were 156 miles of main. In 1904 there were 159½ miles of mains, 1,150 hydrants. Size of pipe, 135½ miles in sizes from six to twenty-four inches and twenty-four miles in sizes ranging

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# Urethral Obstruction.

Every victim of urinary diseases i familiar with its dreadful symptoms. Obstruction, partial closure of the canal, frequent and painful scaldings, prostatic irritation and enlargement and inflammation of the bladder. This disease can never cure itself, and otten develops rapidly, and in a very short time involves the surrounding tissues and glands, causing untold agony and swift destruction of health. If you place any value whatever upon life and health, do not neglect having yourself treated by my special method, as it is painless, quick and certain, and it is accomplished without the use of

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oughly understand this class of Diseases, and by long experience and continued success we have discovered

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